LSN Technical Recommendation 1: 9000 Byte IP MTU for the JET community

It is the recommendation of the JET that the JETnets support an IP MTU of 9,000 bytes in the high-speed (100 Mb/s and above) low-bit-error-rate (e.g., fiber- and CAT-5-based) portions of their networks. It is also recommended that the operators of the NGIXes configure their equipment such that they do not inhibit the use of this IP MTU. The JET encourages that, to the fullest extent possible, campuses of the JET members also support the 9,000 byte IP MTU size on the high-speed low-bit-error-rate portions of their LANs. Finally, the JET also encourages that any aggregation and exchange points the JET members operate be configured such that they do not impede this IP MTU.

The rationale for this recommendation includes the following points:
<> Applications, including but not limited to bulk TCP, benefit from being able to send 8K (i.e., 8 times 1024) bytes of payload plus various headers. An IP MTU of 9000 would satisfy this application need.
<> A growing number of routers, switches, and host NICs support IP packets of at least 9000.
<> Very few routers, switches, and host NICs support IP packets of more than 9500. Thus, there is comparatively little motivation for a value much more than 9000.
<> There is anecdotal evidence that Path MTU discovery would be more reliable if a given agreed-on value were commonly used. This relates to weaknesses in current Path MTU discovery technology.
<> 9000 is an easy number to remember.

It is stressed that this is an interim recommendation. Engineers are also encouraged to explore the benefits and practicalities of much larger MTUs; up to and beyond 64 KBytes, as the technology permits.